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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,521	03/30/2001	Hirohiko Nishiki	8371-125	7083

7590 11/26/2003

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EXAMINER

BOOTH, RICHARD A

ART UNIT	PAPER NUMBER
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2812

DATE MAILED: 11/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/823,521	<b>Applicant(s)</b> NISHIKI ET AL.	
	<b>Examiner</b> Richard A. Booth	<b>Art Unit</b> 2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 34-43 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-33 is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
     a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election of BCB is acknowledged. However, upon reconsideration, the examiner contends that an undue burden is not placed upon the examiner by the examination of all species and therefore this restriction requirement is withdrawn (the restriction between product and process, however, remains).

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the formation of specific elements of the LCD, particularly, the formation of the interlayer insulator layers of the LCD (see claim 18).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –  
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language

Claims 1, 5, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Sandhu, U.S. Patent 6,624,085.

Sandhu shows the invention as claimed including a method of manufacturing a device, comprising: forming a photo-sensitive layer 65 over a substrate 21; forming a photo-insensitive layer 66 over the photo-sensitive layer; exposing a portion of the photo-sensitive layer via a photo-mask to a radiation source (see figs. 7-9); and contacting the portion of the photo-sensitive layer using a developing solution (see col. 4-line 16 to col. 5-line 50).

With respect to contacting with the developing solution, note that this limitation is inherent since photoresist layers are always exposed and the exposed portions are removed by developing solutions.

Furthermore, note that inherently the photoresist will be exposed with one of the forms of electromagnetic radiation from claim 5.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4 and 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu, U.S. Patent 6,624,085.

Sandhu is applied as above but fails to expressly disclose a TMAH developing solution, a photosensitive layer formed from one of a variety of materials with a particular dielectric constant, and various thicknesses of the photo insensitive and sensitive layers.

Regarding using TMAH as a developing solution, official notice is taken that TMAH is a well known developer using in photoresist processing and would have been obvious to one of ordinary skill in the art at the time the invention was made to use in the process of Sandhu. Furthermore, official notice is also taken that one of the variety of photosensitive materials in the claims are well known materials commonly used in semiconductor processing and would have been obvious to one of ordinary skill in the art to use in Sandhu. With respect to the thicknesses, processing parameters such as thicknesses would not lend patentability to the instant application absent the showing of unexpected results.

***Allowable Subject Matter***

Claims 19-33 are allowed.

The following is a reasons for indicating allowable subject matter: the prior art, either singly or in combination, fails to anticipate or render obvious, the limitations of: contacting the portion of the photosensitive layer using a developing solution through the photo-insensitive layer to remove the portion of the photo-sensitive layer and an immediately overlying portion of the photo-insensitive layer; curing the photo-insensitive

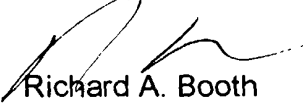
layer and the photo-sensitive layer at the same time; and forming a transparent electrode layer overlying the resulting structure, as required by independent claim 19.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard A. Booth whose telephone number is 308-3446. The examiner can normally be reached on Monday-Thursday from 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling can be reached on 308-3325. The fax phone number for the organization where this application or proceeding is assigned is 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-1782.

  
Richard A. Booth  
Primary Examiner  
Art Unit 2812